

## **PPL24 PROJECT NOMINEE FACT SHEET**

### **January 29, 2014**

#### **Project Name**

Lake Felicity Oyster Reef Shoreline Protection and Marsh Creation

#### **Project Location**

Region 3, Terrebonne Basin, Terrebonne Parish, Terrebonne Bay

#### **Problem**

Marshes along the northern shoreline of Terrebonne Bay have a high interior marsh loss rate, estimated to be 1.2%/yr (USGS-1985-2009-TE-83). The shoreline erosion rate in some areas along the northern Terrebonne Bay shoreline has been shown to be 8 to 34 ft/yr (TE-45 Demo Project). Other estimates (FWS –Ronnie Paille) are as high as 30 ft/yr. The reasons for these high erosion rates include subsidence, a lack of sediment input, a limited supply of freshwater, and a dramatically increase in the tidal prism north of Terrebonne Bay. The increase in the tidal prism directly contributes to the increasing flooding problems of many communities along Bayou Terrebonne including the town of Montegut. As emergent marshes in this area convert to open water, tidal surges will continue to increase thus increasing the flooding north of the bay.

#### **Goals**

The goals of the project are to reduce shoreline erosion along 30,030 linear feet of Terrebonne Bay shoreline and to prevent the bay shoreline from breaking into interior marsh ponds. Protect 82 acres of existing highly productive marsh with the construction of 30,030 LF of oyster reef shoreline protection. Create 131 acres of marsh and nourish 11 acres of marsh with hydraulic dredge.

#### **Proposed Solution**

This project would create approximately 131 acres and nourish 11 acres of marsh by filling small shallow open-water areas with material dredged from the bottom of Terrebonne Bay with a small hydraulic dredge. Limited containment dikes would be used and there would be a net gain of 181 acres of marsh after 20 years.

This project would also protect approximately 30,030 linear feet of Terrebonne Bay shoreline through the construction of habitats suitable for the establishment of oyster reefs. This would be done by installing rock-filled gabion mats along the shoreline and foreshore structures across any open water areas to enhance oyster reef production. This would promote the creation of oyster reefs which would reduce the shoreline erosion rates with little to no maintenance. Shoreline loss rates associated with this proposed project is estimated to be 12 ft./yr. This project should reduce area loss rates by over 95%. This equates to protecting approximately 181 acres of existing or created emergent marsh throughout the 20 project life.

#### **Preliminary Project Benefits**

1) *What is the total acreage benefited both directly and indirectly?*

This total project area is 307 ac.

- 2) *How many acres of wetlands will be protected/created over the project life?*  
Approximately 181 acres of intertidal marsh habitat will be protected/created over the project life.
- 3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*  
The anticipated land loss rate reduction throughout the area of direct benefits will a 95% reduction in shoreline erosion rates associated with the shoreline protection and 50%-74% for marsh creation and marsh nourishment over the 20 year projects life.
- 4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*  
The project will help maintain the Terrebonne Bay shoreline.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*  
None
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*  
The project will have a synergistic effect with Terrebonne Bay Oyster Demo (TE-45) and Terrebonne Bay Marsh Creation Project (TE-83).

#### **Identification of Potential Issues**

This area has many oyster leases, but through the light loading of material and shallow draft equipment the impacts to the leases should be minimal. Potential issues include the following: Oysters and pipelines.

#### **Preliminary Construction Costs**

The estimated construction cost including 25% contingency is between \$15 - \$20 M.

#### **Preparer(s) of Fact Sheet:**

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